

# **STIC Search Report**

## **Biotech-Chem Library**

**STIC Database Tracking Number: 195102**

**TO: CECILIA JAISLE**  
**Location: REM/4E78/5C18**  
**Art Unit: 1624**  
**Thursday, July 13, 2006**  
**Case Serial Number: 10/789165**

**From: Saloni Sharma**  
**Location: Biotech-Chem Library**  
**REM-1A64**  
**Phone: (571)272-8601**

**saloni.sharma@uspto.gov**

### **Search Notes**

Examiner JAISLE,

See attached results.

If you have any questions about this search feel free to contact me at any time.

Thank you for using STIC search services!

Saloni Sharma  
Technical Information Specialist  
STIC Biotech/Chem Library  
(571)272-8601





# STIC SEARCH RESULTS FEEDBACK FORM

## Biotech-Chem Library

Questions about the scope or the results of the search? Contact *the searcher* or contact:

Mary Hale, Information Branch Supervisor  
Remsen Bldg. 01 D86  
571-272-2507

## Voluntary Results Feedback Form

➤ I am an examiner in Workgroup:  Example: 1610

➤ Relevant prior art found, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art not found:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC Biotech-Chem Library, Remsen Bldg.



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Scientific and Technical Information Center

SEARCH REQUEST FORM

Requester's Full Name: Cecilia Jaisle Examiner #: 82613 Date: 7-10-06  
Art Unit: 1624 Phone Number: 2-9931 Serial Number: 10/78916 (2004)  
Location (Bldg/Room#): REM 4E78 (Mailbox #): 5C18 Results Format Preferred (circle): PAPER DISK  
\*\*\*\*\*

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: see Bib Data Sheet

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Date: \_\_\_\_\_

Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

*Please call with any questions.*

STAFF USE ONLY

Searcher: [Signature]

Searcher Phone #: \_\_\_\_\_

Searcher Location: \_\_\_\_\_

Date Searcher Picked Up: 7/11/06

Date Completed: 7/13/06

Searcher Prep & Review Time: 40

Online Time: 25

Type of Search

\_\_\_\_ NA Sequence (#)

\_\_\_\_ AA Sequence (#)

\_\_\_\_ Structure (#)

\_\_\_\_ Bibliographic

\_\_\_\_ Litigation

\_\_\_\_ Fulltext

\_\_\_\_ Other

Vendors and cost where applicable

☒ STN \_\_\_\_\_ Dialog

\_\_\_\_ Questel/Orbit \_\_\_\_\_ Lexis/Nexis

\_\_\_\_ Westlaw \_\_\_\_\_ WWW/Internet

\_\_\_\_ In-house sequence systems

\_\_\_\_ Commercial \_\_\_\_\_ Oligomer \_\_\_\_\_ Score/Length  
\_\_\_\_ Interference \_\_\_\_\_ SPDI \_\_\_\_\_ Encode/Transl  
\_\_\_\_ Other (specify)

=> d his nofile

(FILE 'HOME' ENTERED AT 10:02:23 ON 13 JUL 2006)

FILE 'REGISTRY' ENTERED AT 10:02:31 ON 13 JUL 2006

L1 STRUCTURE UPLOADED  
L2 1 SEA SSS SAM L1  
D QUE L1  
L3 9 SEA SSS FUL L1  
D SCAN

FILE 'STNGUIDE' ENTERED AT 10:03:59 ON 13 JUL 2006

FILE 'CAPLUS' ENTERED AT 10:04:48 ON 13 JUL 2006

E US2004-789165/APPS  
L4 1 SEA ABB=ON PLU=ON US2004-789165/AP  
SEL RN L4

FILE 'REGISTRY' ENTERED AT 10:05:04 ON 13 JUL 2006

L5 15 SEA ABB=ON PLU=ON (1121-60-4/BI OR 156-43-4/BI OR 4315-07-5/B  
I OR 473719-41-4/BI OR 473720-89-7/BI OR 473720-92-2/BI OR  
5345-47-1/BI OR 752244-90-9/BI OR 752244-91-0/BI OR 752244-92-1  
/BI OR 752244-93-2/BI OR 752244-94-3/BI OR 752244-95-4/BI OR  
752244-96-5/BI OR 7764-95-6/BI)  
D SCAN

FILE 'REGISTRY' ENTERED AT 10:05:45 ON 13 JUL 2006

L6 6 SEA ABB=ON PLU=ON L5 AND L3

FILE 'CAPLUS' ENTERED AT 10:06:00 ON 13 JUL 2006

L7 2 SEA ABB=ON PLU=ON L6  
L8 2 SEA ABB=ON PLU=ON L3  
L9 2 SEA ABB=ON PLU=ON (L7 OR L8 OR L4)

FILE 'BEILSTEIN' ENTERED AT 10:06:24 ON 13 JUL 2006

L10 0 SEA SSS FUL L1

FILE 'MARPAT' ENTERED AT 10:06:43 ON 13 JUL 2006

L11 0 SEA SSS SAM L1  
L12 3 SEA SSS FUL L1  
L13 2 SEA ABB=ON PLU=ON L12 NOT L9

FILE 'CAPLUS' ENTERED AT 10:07:17 ON 13 JUL 2006

E COLLINS T/AU  
L14 103 SEA ABB=ON PLU=ON ("COLLINS T"/AU OR "COLLINS T L"/AU OR  
"COLLINS T L D"/AU OR "COLLINS T L JR"/AU OR "COLLINS T LEO  
JR"/AU OR "COLLINS TASSIE"/AU OR "COLLINS TASSIE L"/AU OR  
"COLLINS TASSIE LYNNE"/AU)  
E JOHNSON M/AU  
L15 7132 SEA ABB=ON PLU=ON JOHNSON M?/AU  
E MA J/AU  
L16 7716 SEA ABB=ON PLU=ON MA J?/AU  
E MEDINA J/AU  
L17 185 SEA ABB=ON PLU=ON ("MEDINA J"/AU OR "MEDINA J C"/AU OR  
"MEDINA J C O"/AU OR "MEDINA JULIO"/AU OR "MEDINA JULIO C"/AU  
OR "MEDINA JULIO CESAR"/AU OR "MEDINA JULIO VARGAS"/AU)  
E MIAO S/AU  
L18 57 SEA ABB=ON PLU=ON ("MIAO S"/AU OR "MIAO S B"/AU OR "MIAO S  
H"/AU OR "MIAO S L"/AU OR "MIAO S M"/AU OR "MIAO S P"/AU OR

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"MAIO S Q"/AU OR "MAIO S W"/AU OR "MAIO S Y"/AU OR "MAIO
SCHICHANG"/AU)
E TONN G/AU
L19      20 SEA ABB=ON  PLU=ON  ("TONN G"/AU OR "TONN G R"/AU OR "TONN
        GARY A"/AU OR "TONN GEORGE"/AU OR "TONN GEORGE R"/AU OR "TONN
        GEORGE ROGER"/AU)
        E SCHNEIDER M/AU
L20      1357 SEA ABB=ON  PLU=ON  ("SCHNEIDER M"/AU OR "SCHNEIDER M A"/AU OR
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        F"/AU OR "SCHNEIDER M FRANZ"/AU OR "SCHNEIDER M G"/AU OR
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        OR "SCHNEIDER M J T"/AU OR "SCHNEIDER M K H"/AU OR "SCHNEIDER
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        OR "SCHNEIDER M W"/AU OR "SCHNEIDER M WENDY"/AU OR "SCHNEIDER
        MANFRED"/AU OR "SCHNEIDER MANFRED DIPL ING"/AU OR "SCHNEIDER
        MANFRED K H"/AU OR "SCHNEIDER MANFRED KARL HEINRICH"/AU OR
        "SCHNEIDER MANFRED P"/AU)
L21      14 SEA ABB=ON  PLU=ON  (L14 AND (L15 OR L16 OR L17 OR L18 OR L19
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        (L16 AND (L17 OR L18 OR L19 OR L20)) OR (L17 AND (L18 OR L19
        OR L20)) OR (L18 AND (L19 OR L20)) OR (L19 AND L20)
L22      0 SEA ABB=ON  PLU=ON  L9 NOT (PY>2003 OR AY>2003 OR PRY>2003)

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=> file caplus

FILE 'CAPLUS' ENTERED AT 10:15:36 ON 13 JUL 2006  
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 FILE LAST UPDATED: 12 Jul 2006 (20060712/ED)

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 'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

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L14      103 SEA FILE=CAPLUS ABB=ON  PLU=ON  ("COLLINS T"/AU OR "COLLINS T
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        OR "COLLINS TASSIE LYNNE"/AU)

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 L17 185 SEA FILE=CAPLUS ABB=ON PLU=ON ("MEDINA J"/AU OR "MEDINA J C"/AU OR "MEDINA J C O"/AU OR "MEDINA JULIO"/AU OR "MEDINA JULIO C"/AU OR "MEDINA JULIO CESAR"/AU OR "MEDINA JULIO VARGAS"/AU)  
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 L20 1357 SEA FILE=CAPLUS ABB=ON PLU=ON ("SCHNEIDER M"/AU OR "SCHNEIDER M A"/AU OR "SCHNEIDER M ALEXANDER"/AU OR "SCHNEIDER M B"/AU OR "SCHNEIDER M C"/AU OR "SCHNEIDER M CHARLES"/AU OR "SCHNEIDER M D"/AU OR "SCHNEIDER M DEL P"/AU OR "SCHNEIDER M E"/AU OR "SCHNEIDER M F"/AU OR "SCHNEIDER M FRANZ"/AU OR "SCHNEIDER M G"/AU OR "SCHNEIDER M H"/AU OR "SCHNEIDER M I"/AU OR "SCHNEIDER M J"/AU OR "SCHNEIDER M J T"/AU OR "SCHNEIDER M K H"/AU OR "SCHNEIDER M K J"/AU OR "SCHNEIDER M L"/AU OR "SCHNEIDER M M"/AU OR "SCHNEIDER M M E"/AU OR "SCHNEIDER M O"/AU OR "SCHNEIDER M P"/AU OR "SCHNEIDER M P C"/AU OR "SCHNEIDER M R"/AU OR "SCHNEIDER M S"/AU OR "SCHNEIDER M U"/AU OR "SCHNEIDER M V"/AU OR "SCHNEIDER M W"/AU OR "SCHNEIDER M WENDY"/AU OR "SCHNEIDER MANFRED"/AU OR "SCHNEIDER MANFRED DIPL ING"/AU OR "SCHNEIDER MANFRED K H"/AU OR "SCHNEIDER MANFRED KARL HEINRICH"/AU OR "SCHNEIDER MANFRED P"/AU)  
 L21 14 SEA FILE=CAPLUS ABB=ON PLU=ON (L14 AND (L15 OR L16 OR L17 OR L18 OR L19 OR L20)) OR (L15 AND (L16 OR L17 OR L18 OR L19 OR L20)) OR (L16 AND (L17 OR L18 OR L19 OR L20)) OR (L17 AND (L18 OR L19 OR L20)) OR (L18 AND (L19 OR L20)) OR (L19 AND L20)

=> d ibib abs 121 tot

L21 ~~ANSWER 1 OF 14~~ CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:540360 CAPLUS

TITLE: the SAR study of Benzodiazepine receptor bivalent ligands by low temperature NMR spectroscopy and X-ray analysis

AUTHOR(S): Huang, Shengming; Clayton, Terry; Dai, Minghuan; Yin, Wenyan; Ma, Jun; Edwankar, Rahul; Sawant, Chitra; Van Linn, Michael; Teng, Yun; Johnson, Merle; Forsterling, Holger F.; Cook, James M.

CORPORATE SOURCE: Department of Chemistry, University of Wisconsin-Milwaukee, Milwaukee, WI, 53211, USA

SOURCE: Abstracts, 37th Great Lakes Regional Meeting of the American Chemical Society, Milwaukee, WI, United States, May 31-June 2 (2006), GLRM-155. American Chemical Society: Washington, D. C.

CODEN: 69ICX4

DOCUMENT TYPE: Conference; Meeting Abstract

LANGUAGE: English

AB The stable conformations of GABAA-benzodiazepine receptor bivalent ligands which contained linkers of different length were determined by low temperature NMR spectroscopy and confirmed by single crystal X-ray anal. <sup>1</sup>HNMR, <sup>13</sup>CNMR, COSY, PECOSY, NOESY, ROESY and HSQC etc were run at variable temps. in

both protic and aprotic polar solvents. The results indicate the behavior in solution mirrors that in the solid state. The linear conformation is important for these dimers to access the BzR binding site and exhibit potent in vitro affinity. Bivalent ligands which folded back upon themselves did not bind to Bz receptors. Anal. of the results of this study reveals the type and length of linker play an important role in the conformation of bivalent ligands and the affinity at BzR in these series. This will help to design bivalent ligands in the future.

L21 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2006:315167 CAPLUS  
 DOCUMENT NUMBER: 145:27899  
 TITLE: Optimization of 2-aminothiazole derivatives as CCR4 antagonists  
 AUTHOR(S): Wang, Xuemei; Xu, Feng; Xu, Qingge; Mahmud, Hossen; Houze, Jonathan; Zhu, Liusheng; Akerman, Michelle; Tonn, George; Tang, Liang; McMaster, Brian E.; Dairaghi, Daniel J.; Schall, Thomas J.; Collins, Tassie L.; Medina, Julio C.  
 CORPORATE SOURCE: Amgen Inc., South San Francisco, CA, 94080, USA  
 SOURCE: Bioorganic & Medicinal Chemistry Letters (2006), 16(10), 2800-2803  
 CODEN: BMCLE8; ISSN: 0960-894X  
 PUBLISHER: Elsevier B.V.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB A series of 2-aminothiazole antagonists of the CCR4 receptor were synthesized and their affinity for the receptor evaluated using a [125I]TARC (CCL17) displacement assay. Optimization of these compds. for potency and pharmacokinetic properties led to potent, orally bioavailable antagonists.  
 REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2006:248858 CAPLUS  
 TITLE: Synthesis of the CXCR3 antagonist AMG 487  
 AUTHOR(S): Johnson, Michael G.; Li, An-Rong; Liu, Jiwen; Marcus, Andrew P.; Huang, Alan X.; Medina, Julio C.  
 CORPORATE SOURCE: Department of Chemistry, Amgen Inc, South San Francisco, CA, 94114, USA  
 SOURCE: Abstracts of Papers, 231st ACS National Meeting, Atlanta, GA, United States, March 26-30, 2006 (2006), ORGN-143. American Chemical Society: Washington, D. C.  
 CODEN: 69HYEC  
 DOCUMENT TYPE: Conference; Meeting Abstract; (computer optical disk)  
 LANGUAGE: English  
 AB AMG 487 is a small mol. antagonist of the chemokine receptor CXCR3, a biol. target expressed primarily on activated T cells and implicated in a variety of autoimmune diseases. In this poster we outline several synthetic routes to the 8-azaquinazolinone core found in AMG 487 and describe the optimized sequence that was employed to produce kilogram quantities of the final product in 6 steps, in 18% overall yield and >99% chemical and enantiomeric purity.

L21 ANSWER 4 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2006:248342 CAPLUS

TITLE: Optimization and biological profile of 2,3-substituted quinazolin-4-ones as potent CXCR3 antagonists  
 AUTHOR(S): Medina, Julio C.; Collins, Tassie L.; Johnson, Michael; Li, An-Rong; Fu, Zice; Liu, Jiwen; Huang, Alan; Tonn, George; Dairaghi, Daniel; Lawrence, Christopher; Hollander, Georges; Piali, Luca; Schall, Thomas; Sullivan, Tim; Ye, Qiuping  
 CORPORATE SOURCE: Amgen SF, South San Francisco, CA, 94080, USA  
 SOURCE: Abstracts of Papers, 231st ACS National Meeting, Atlanta, GA, United States, March 26-30, 2006 (2006), MEDI-190. American Chemical Society: Washington, D. C.

CODEN: 69HYEC  
 DOCUMENT TYPE: Conference; Meeting Abstract; (computer optical disk)  
 LANGUAGE: English

AB CXCR3 is a chemokine receptor associated with the recruitment of leukocytes from the peripheral blood into inflamed tissue. The ligands for CXCR3 are Mig (CXCL9), IP10 (CXCL10) and ITAC (CXCL11). CXCR3 and its ligands are found in increased levels in samples of diseased tissue taken from patients suffering from organ transplant rejection, inflammatory bowel disease, multiple sclerosis, psoriasis and rheumatoid arthritis. Therefore, it has been postulated that blockade of CXCR3 may play a beneficial role in the treatment of these diseases. In this presentation we will describe the optimization of the potency and pharmacokinetic properties of a series of 2,3-substituted quinazolin-4-ones with potent CXCR3 antagonism that led to the discovery of the clin. candidate AMG 487. In addition, we will also discuss the efficacy of these compds. in several in vivo models.

L21 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:248286 CAPLUS  
 TITLE: Discovery and optimization of a series of 2,3,4,9-tetrahydro-1H-pyrido[3,4-b]indole derivatives as CXCR3 antagonists  
 AUTHOR(S): Zhu, Liusheng; Xu, Feng; Collins, Tassie L.; Medina, Julio C.  
 CORPORATE SOURCE: Chemistry Department, Amgen SF, South San Francisco, CA, 94080, USA  
 SOURCE: Abstracts of Papers, 231st ACS National Meeting, Atlanta, GA, United States, March 26-30, 2006 (2006), MEDI-133. American Chemical Society: Washington, D. C.

CODEN: 69HYEC  
 DOCUMENT TYPE: Conference; Meeting Abstract; (computer optical disk)  
 LANGUAGE: English

AB The CXCR3 receptor and its ligands MIG (CXCL9), IP-10 (CXCL10) and ITAC (CXCL11) have been implicated in a variety of inflammatory and autoimmune diseases. Cells expressing CXCR3 have been identified in diseased tissue from transplant rejection, psoriasis, rheumatoid arthritis and multiple sclerosis patients. Moreover, the ligands for CXCR3 (MIG, IP-10, ITAC) are upregulated within many of these tissues. Screening of our chemical library led to the discovery of a novel series of 2,3,4,9-tetrahydro-1H-pyrido[3,4-b]indole derivs. as CXCR3 antagonists. Here we describe the optimization of this series that led to the discovery of potent antagonists exemplified by (1).

L21 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:248277 CAPLUS



TITLE: Tetrahydroquinolines as CRTH2 antagonists  
AUTHOR(S): Liu, Jiwen; Wang, Yingcai; Sun, Ying; Tang, Lucy; Marshall, Derek; Tonn, George; Medina, Julio C.  
CORPORATE SOURCE: Chemistry, Amgen Inc, South San Francisco, CA, 94080, USA  
SOURCE: Abstracts of Papers, 231st ACS National Meeting, Atlanta, GA, United States, March 26-30, 2006 (2006), MEDI-124. American Chemical Society: Washington, D. C.  
CODEN: 69HYEC  
DOCUMENT TYPE: Conference; Meeting Abstract; (computer optical disk)  
LANGUAGE: English  
AB CRTH2 (chemoattractant receptor-homologous mol. expressed on Th2 cells) is a G protein coupled receptor expressed on eosinophils, basophils, and T helper 2 (Th2) lymphocytes. CRTH2 activation by its ligand, prostaglandin D2 (PGD2), is known to induce eosinophil degranulation and recruitment of lymphocytes to inflammatory sites. In addition, PGD2 is released by mast cells in large amts. during asthmatic responses. Therefore, it has been postulated that blocking CRTH2 could be therapeutically valuable in the treatment of asthma, allergic rhinitis and other allergic diseases. In this presentation, we will disclose a series of tetrahydroquinoline derivs. as high affinity CRTH2 antagonists and we will discuss the optimization of their potency and their pharmacokinetic properties.

L21 ANSWER 7 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2006:32196 CAPLUS  
DOCUMENT NUMBER: 144:128994  
TITLE: Tetrahydroquinazolin-4(3H)-one-related and tetrahydropyrido[2,3-d]pyrimidin-4(3H)-one-related compounds, and their preparation, and pharmaceutical compositions for modulating CXCR3 chemokine receptor and for treatment of inflammatory and immune conditions or disorders  
INVENTOR(S): Fu, Zice; Johnson, Michael G.; Li, An-Rong; Marcus, Andrew P.; Medina, Julio C.; Bergeron, Philippe; Chen, Xiaoqi; Deignan, Jeffrey; Du, Xiaohui; Duquette, Jason A.; Gustin, Darin; Mihalic, Jeffrey T.  
PATENT ASSIGNEE(S): Amgen Sf, LLC, USA  
SOURCE: PCT Int. Appl., 86 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.    | KIND                                                                                                                                                                                                                                                                                                                                                                                                       | DATE     | APPLICATION NO. | DATE     |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------|----------|
| WO 2006004925 | A1                                                                                                                                                                                                                                                                                                                                                                                                         | 20060112 | WO 2005-US23275 | 20050628 |
| W:            | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |          |                 |          |
| RW:           | AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF,                                                                                                                                                                                                                                                                            |          |                 |          |

CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM,  
 KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG,  
 KZ, MD, RU, TJ, TM

US 2006069106 A1 20060330 US 2005-168006 20050627  
 PRIORITY APPLN. INFO.: US 2004-583823P P 20040628  
 OTHER SOURCE(S): MARPAT 144:128994  
 GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I where Q is CO, CH<sub>2</sub>CO, CH<sub>2</sub>SO, or CH<sub>2</sub>SO<sub>2</sub>; L is a bond or C1-5 alkylene; A1, A2 and A3 are independently selected from C(R')(R'') or CO; A4 is C(R')(R'') or N(R''') where each R' and R'' is independently selected from H, halo, C1-8 alkyl, C2-8 heteroalkyl, C1-4 fluoroalkyl, (hetero)aryl, (hetero)aryl-C1-8-alkyl, optionally, R' and R'' groups on adjacent carbon may be combined to form a 5- or 6-membered fused ring, and R' and R'' groups attached to the same carbon atom may be combined to form a 3- to 8-membered spirocyclic ring; R''' is H, C1-8 alkyl or C2-8 heteroalkyl; R1 is (hetero)aryl; R2 is H, halo, C1-10 (heterocyclo)alkyl, C2-10 heteroalkyl, C1-10 alkylaryl or C2-10 alkylheteroaryl, optionally R2 may be combined with L to form a 5-, 6-, 7-, or 8-membered ring containing 1-3 heteroatoms selected from N, O, or S; R3 is absent or H, CHR<sub>6</sub>R<sub>7</sub>, S(O)mR<sub>5</sub>, S(O)mN(R<sub>8</sub>)R<sub>9</sub>, N(R<sub>8</sub>)SO<sub>2</sub>R<sub>5</sub>, N(R<sub>8</sub>)CH<sub>2</sub>R<sub>10</sub>, or certain aza/cyclic groups; R4 = (hetero)alkyl, (hetero)aryl, (hetero)aryl(hetero)alkyl; where R5 is C1-8 alkyl, or C2-8 heteroalkyl, (hetero)aryl; R6 and R7 independently are H, C1-8 alkyl, or C2-8 heteroalkyl; R8 is H, C1-8 alkyl, C2-8 heteroalkyl, or (hetero)aryl; R9 is C1-8 alkyl or CH<sub>2</sub>R<sub>6</sub>, R10 is aryl, m is 0, 1 or 2; with provisos; or a pharmaceutical acceptable salt or prodrug thereof are disclosed in this invention. The subject compds. were useful for treatment of inflammatory and immune conditions and diseases. Compns. and methods of treatment using the invention compds. are also provided. For example, the subject methods were useful for treatment of inflammatory and immune disorders and disease such as multiple sclerosis, rheumatoid arthritis, psoriasis, and inflammatory bowel disease. Example compound II was prepared via conjugate addition of amine III to Et vinyl sulfone, followed by acylation with in situ-prepared 4-fluoro-3-trifluoromethylphenylacetyl chloride and hydrogenation. The invention compds. were useful for modulating CXCR3 chemokine receptor (no data) and for treatment of inflammatory and immune conditions or disorders (no data).

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:32186 CAPLUS

DOCUMENT NUMBER: 144:128974

TITLE: Preparation of imidazole derivatives as CXCR3 inhibitors for treatment of inflammation and immune diseases

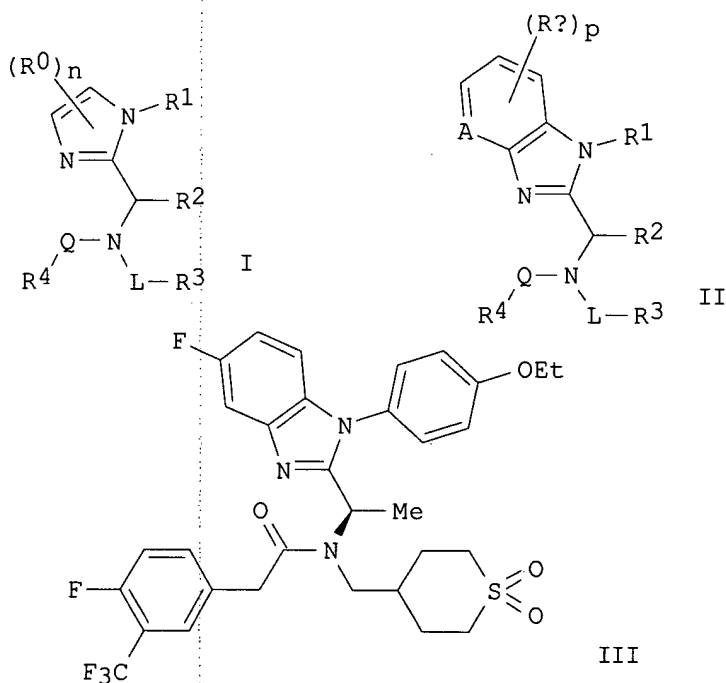
INVENTOR(S): Fu, Zice; Johnson, Michael G.; Li, An-Rong; Marcus, Andrew P.; Medina, Julio C.; Bergeron, Philippe; Chen, Xiaoqi; Deignan, Jeffrey; Du, Xiaohui; Duquette, Jason A.; Gustin, Darin; Mihalic, Jeffrey T.

PATENT ASSIGNEE(S): Amgen Sf, LLC, USA

SOURCE: PCT Int. Appl., 53 pp.  
 CODEN: PIXXD2

DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.                                                                                                                                                                                                                                                                                                                                                                                                    | KIND              | DATE     | APPLICATION NO. | DATE       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------|-----------------|------------|
| WO 2006004924                                                                                                                                                                                                                                                                                                                                                                                                 | A2                | 20060112 | WO 2005-US23274 | 20050628   |
| WO 2006004924                                                                                                                                                                                                                                                                                                                                                                                                 | A3                | 20060309 |                 |            |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |                   |          |                 |            |
| RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM                                                                                                                        |                   |          |                 |            |
| US 2006069127                                                                                                                                                                                                                                                                                                                                                                                                 | A1                | 20060330 | US 2005-168193  | 20050627   |
| PRIORITY APPLN. INFO.:                                                                                                                                                                                                                                                                                                                                                                                        |                   |          | US 2004-583822P | P 20040628 |
| OTHER SOURCE(S):                                                                                                                                                                                                                                                                                                                                                                                              | MARPAT 144:128974 |          |                 |            |
| GI                                                                                                                                                                                                                                                                                                                                                                                                            |                   |          |                 |            |

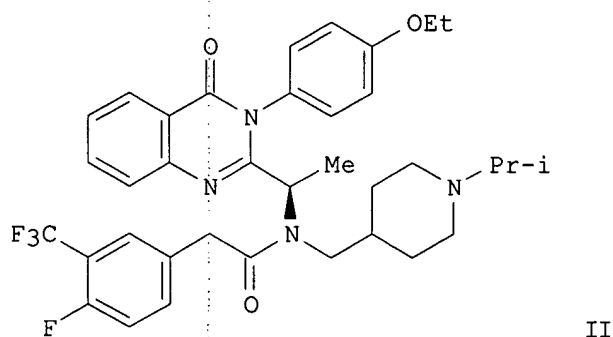
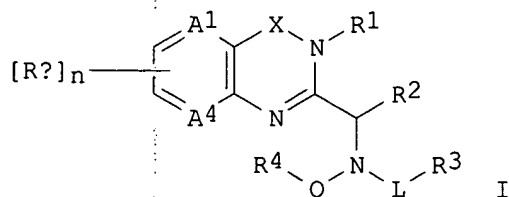


AB The title imidazole derivs. I and II [wherein Q = CO, CH<sub>2</sub>CO, CH<sub>2</sub>SO, or CH<sub>2</sub>SO<sub>2</sub>; L = a bond or alkylene; R<sup>0</sup> = H, (hetero)alkyl, aryl, etc.; n = 0-2; R<sup>1</sup> = (hetero)aryl; R<sup>2</sup> = H, halo, alkyl, aryl, etc.; R<sup>3</sup> = absent, H,

(un)substituted CH<sub>3</sub>, SONH<sub>2</sub>, SO<sub>2</sub>NH<sub>2</sub>, NHCH<sub>3</sub>, etc.; R<sub>4</sub> = (hetero)alkyl, (hetero)aryl, (hetero)arylalkyl, etc.; A = N or (un)substituted CH; R<sub>a</sub> = H, (un)substituted OH, =NH, =NOH, SH, etc.] or pharmaceutically acceptable salts, or prodrugs thereof were prepared as CXCR3 inhibitors for treatment of inflammation and immune diseases. For example, the compound III was prepared in a multi-step synthesis. The biol. activity of the title compds. as inhibitors of chemokine receptor CXCR3 were tested. The compds. are useful for the treatment of inflammation and immune diseases, such as multiple sclerosis, rheumatoid arthritis, psoriasis, and inflammatory bowel disease, etc. (no data).

L21 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2006:32072 CAPLUS  
 DOCUMENT NUMBER: 144:128993  
 TITLE: Preparation of fused pyrimidine derivatives as CXCR3 receptor modulators for prevention and treatment of inflammatory and immunoregulatory conditions  
 INVENTOR(S): Fu, Zice; Johnson, Michael G.; Li, An-Rong; Marcus, Andrew P.; Medina, Julio C.; Bergeron, Philippe; Chen, Xiaoqi; Deignan, Jeffrey; Du, Xiaohui; Duquette, Jason A.; Gustin, Darin; Mihalic, Jeffrey T.  
 PATENT ASSIGNEE(S): Amgen Inc., USA  
 SOURCE: PCT Int. Appl., 80 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.                                                                                                                                                                                                                                                                                                                                                                                                    | KIND              | DATE     | APPLICATION NO. | DATE       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------|-----------------|------------|
| WO 2006004915                                                                                                                                                                                                                                                                                                                                                                                                 | A1                | 20060112 | WO 2005-US23251 | 20050628   |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |                   |          |                 |            |
| RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM                                                                                                                        |                   |          |                 |            |
| US 2006069099                                                                                                                                                                                                                                                                                                                                                                                                 | A1                | 20060330 | US 2005-168005  | 20050627   |
| PRIORITY APPLN. INFO.:                                                                                                                                                                                                                                                                                                                                                                                        |                   |          | US 2004-583901P | P 20040628 |
| OTHER SOURCE(S):                                                                                                                                                                                                                                                                                                                                                                                              | MARPAT 144:128993 |          |                 |            |
| GI                                                                                                                                                                                                                                                                                                                                                                                                            |                   |          |                 |            |



AB Title compds. I [A1, A4 = independently CH and derivs., N; Q = a bond, hetero/alkylene, CO, CH2CO, etc.; L = a bond, alkylene; X = CH2, SO2, CO; Ra = H, OH and derivs., halo, etc.; n = 0-4; R1 = hetero/aryl; R2 = H, halo, hetero/alkyl, etc.; or R2 may be combined with L to form a 5- to 8-membered ring containing 1-3 heteroatoms; R3 = absent, H, SR5, NHSO2R5, piperidin-4-yl, etc.; R3 may be combined with R2 to form a 4- to 8-membered ring containing 1-3 heteroatoms; R5 = hetero/alkyl, hetero/aryl; R4 = hetero/alkyl, hetero/aryl, etc.; and their pharmaceutically acceptable salts and prodrugs] were prepared as chemokine receptor CXCR3 modulators (no data). Two biol. assays are given. Thus, reductive amination of 1-isopropylpiperidine-4-carboxaldehyde with 2-((1R)-1-aminoethyl)-3-(4-ethoxyphenyl)-4(3H)-quinazolinone, and acylation of the amine intermediate with [4-fluoro-3-(trifluoromethyl)phenyl]acetic acid gave quinazolinone II. I are useful for the treatment of inflammatory and immune disorders and diseases, such as multiple sclerosis, rheumatoid arthritis, psoriasis, and inflammatory bowel disease (no data).

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN  
 110  
 ACCESSION NUMBER: 2005:739573 CAPLUS  
 TITLE: Discovery and optimization of 2-aminothiazole derivatives as CCR4 antagonists  
 AUTHOR(S): Wang, Xuemei; Xu, Feng; Xu, Qingge; Mahmud, Hossen; Houze, Jonathan; Zhu, Liusheng; Akerman, Michelle; Tonn, George; Tang, Liang; Dairaghi, Daniel J.; Collins, Tassie L.; Medina, Julio C.  
 CORPORATE SOURCE: Amgen SF, South San Francisco, CA, 94080, USA  
 SOURCE: Abstracts of Papers, 230th ACS National Meeting, Washington, DC, United States, Aug. 28-Sept. 1, 2005 (2005), MEDI-058. American Chemical Society: Washington, D. C.  
 CODEN: 69HFCL

DOCUMENT TYPE: Conference; Meeting Abstract; (computer optical disk)  
 LANGUAGE: English

AB CCR4 is a chemokine receptor preferentially expressed on Th2 cells and plays a major role in the infiltration of T cells into inflamed tissues. CCR4 and its ligands, TARC and MDC, are found in increased levels in patients with asthma and atopic dermatitis. Therefore, it has been suggested that CCR4 inhibitors may represent a novel approach to the treatment of these and other immune disorders mediated by Th2 cells. In this study, a series of 2-aminothiazole derivs. was optimized for increased CCR4 antagonistic activity and pharmacokinetic properties. We will report on the discovery of a series of orally bioavailable, highly potent CCR4 antagonists with improved pharmacokinetic properties.

L21 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:740142 CAPLUS

DOCUMENT NUMBER: 141:248743

TITLE: CXCR3 antagonists containing N-(heteroarylalkyl)acylamides

INVENTOR(S): Collins, Tassie L.; Johnson, Michael G.; Ma, Ji; Medina, Julio C.; Miao, Shichang; Schneider, Manfred; Tonn, George R.

PATENT ASSIGNEE(S): Tularik Inc., USA

SOURCE: PCT Int. Appl., 43 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.             | KIND                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | DATE     | APPLICATION NO.  | DATE       |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------|------------|
| WO 2004075863          | A2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 20040910 | WO 2004-US5960   | 20040227   |
| WO 2004075863          | A3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 20041209 |                  |            |
| W:                     | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, RW, BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG |          |                  |            |
| US 2004242498          | A1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 20041202 | US 2004-789165   | 20040226   |
| EP 1603896             | A2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 20051214 | EP 2004-715730   | 20040227   |
| R:                     | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK                                                                                                                                                                                                                                                                                                                                                                         |          |                  |            |
| PRIORITY APPLN. INFO.: |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          | US: 2003-451157P | P 20030227 |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          | WO 2004-US5960   | W 20040227 |

OTHER SOURCE(S): MARPAT 141:248743

AB Compds., compns. and methods that are useful in the treatment of inflammatory and immune conditions and diseases are provided herein. In particular, the invention provides compds. which modulate the expression and/or function of a chemokine receptor. The subject methods are useful for the treatment of inflammatory and immunoregulatory disorders and diseases, such as multiple sclerosis, rheumatoid arthritis and type I diabetes.

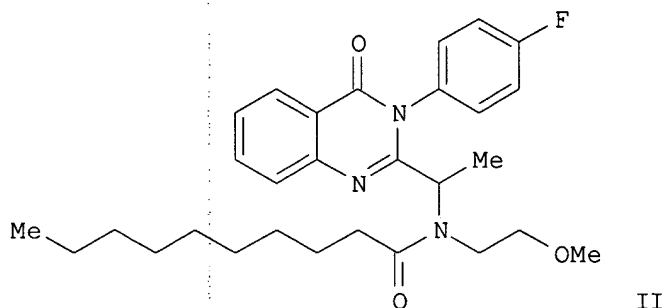
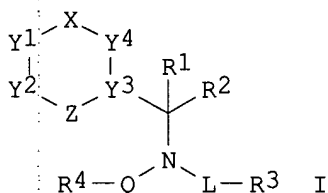
L21 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:813938 CAPLUS

DOCUMENT NUMBER: 137:337907  
 TITLE: Preparation of N-(heteroarylalkyl)acylamides as CXCR3 antagonists for treatment of inflammatory or immune conditions  
 INVENTOR(S): Medina, Julio C.; Johnson, Michael G.; Li, An-Rong; Liu, Jiwen; Huang, Alan Xi; Zhu, Liusheng; Marcus, Andrew P.  
 PATENT ASSIGNEE(S): Tularik Inc., USA  
 SOURCE: PCT Int. Appl., 205 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.                                                                                                                                                                                                                                                                                                                                                            | KIND | DATE     | APPLICATION NO. | DATE        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|-------------|
| WO 2002083143                                                                                                                                                                                                                                                                                                                                                         | A1   | 20021024 | WO 2001-US47850 | 20011211    |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW |      |          |                 |             |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG                                                                                                                                                                    |      |          |                 |             |
| CA 2431553                                                                                                                                                                                                                                                                                                                                                            | AA   | 20021024 | CA 2001-2431553 | 20011211    |
| US 2002169159                                                                                                                                                                                                                                                                                                                                                         | A1   | 20021114 | US 2001-15532   | 20011211    |
| US 6964967                                                                                                                                                                                                                                                                                                                                                            | B2   | 20051115 |                 |             |
| EP 1343505                                                                                                                                                                                                                                                                                                                                                            | A1   | 20030917 | EP 2001-273533  | 20011211    |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR                                                                                                                                                                                                                                                             |      |          |                 |             |
| JP 2004536796                                                                                                                                                                                                                                                                                                                                                         | T2   | 20041209 | JP 2002-580947  | 20011211    |
| CN 1575177                                                                                                                                                                                                                                                                                                                                                            | A    | 20050202 | CN 2001-822596  | 20011211    |
| BR 2001016096                                                                                                                                                                                                                                                                                                                                                         | A    | 20051018 | BR 2001-16096   | 20011211    |
| US 2003069234                                                                                                                                                                                                                                                                                                                                                         | A1   | 20030410 | US 2002-164690  | 20020606    |
| US 6794379                                                                                                                                                                                                                                                                                                                                                            | B2   | 20040921 |                 |             |
| US 2003055054                                                                                                                                                                                                                                                                                                                                                         | A1   | 20030320 | US 2002-231895  | 20020829    |
| US 7053215                                                                                                                                                                                                                                                                                                                                                            | B2   | 20060530 |                 |             |
| ZA 2003004342                                                                                                                                                                                                                                                                                                                                                         | A    | 20050509 | ZA 2003-4342    | 20030603    |
| NO 2003002612                                                                                                                                                                                                                                                                                                                                                         | A    | 20030805 | NO 2003-2612    | 20030610    |
| US 2005075333                                                                                                                                                                                                                                                                                                                                                         | A1   | 20050407 | US 2004-946935  | 20040921    |
| US 7067662                                                                                                                                                                                                                                                                                                                                                            | B2   | 20060627 |                 |             |
| US 2006116388                                                                                                                                                                                                                                                                                                                                                         | A1   | 20060601 | US 2006-332054  | 20060113    |
| PRIORITY APPLN. INFO.:                                                                                                                                                                                                                                                                                                                                                |      |          | US 2000-255241P | P 20001211  |
|                                                                                                                                                                                                                                                                                                                                                                       |      |          | US 2001-296499P | P 20010606  |
|                                                                                                                                                                                                                                                                                                                                                                       |      |          | US 2001-15532   | A1 20011211 |
|                                                                                                                                                                                                                                                                                                                                                                       |      |          | WO 2001-US47850 | W 20011211  |
|                                                                                                                                                                                                                                                                                                                                                                       |      |          | US 2002-164690  | A1 20020606 |
|                                                                                                                                                                                                                                                                                                                                                                       |      |          | US 2002-231895  | A1 20020829 |

OTHER SOURCE(S): MARPAT 137:337907  
 GI



AB Title compds. I [wherein X = a bond, CO, CR5R6, CR5:, SO, SO2, or N: ; Z = a bond, N:, O, S, NR17, or CR7: ; with the proviso that X and Z are not both a bond; L = CO-alkylene or (hetero)alkylene; Q = (hetero)alkylene, CO, OCO, NR8CO, CH2CO, CH2SO, or CH2SO2; or NLQ = heterocyclyl; R1 and R2 = independently H, (hetero)alkyl, or (hetero)aryl; or CR1R2 = (hetero)cyclyl; or CNR2L = heterocyclyl; R3 = OH, alkoxy, NH2, (di)alkylamino, heteroalkyl, heterocyclyl, acylaminoamidino, guanidino, ureido, CN, heteroaryl, carbamoyl, or carboxy; R4 = (hetero)alkyl, (hetero)aryl, etc.; R5 and R6 = independently H, (hetero)alkyl, or (hetero)aryl; or CR5R6 = a ring; R7 and R8 = independently H, (hetero)alkyl, or (hetero)aryl; Y1 and Y2 = independently CR12: N:, O, S, or NR13; Y3 = N or C, wherein C shares a double bond with either Z or Y4; Y4 = NR14, CR14:, N:, NR14CR15R16; R12 = H, halo, OH, NH2, (di)alkylamino, (hetero)alkyl, or (hetero)aryl, with provisos; R13 = H, (hetero)alkyl, (hetero)aryl, etc.; R14 = (hetero)alkyl, (hetero)aryl, etc.; R15 and R16 = independently H or (hetero)alkyl; R17 = H, (hetero)alkyl, (hetero)aryl, etc.; with provisos] were prepared as chemokine receptor modulators, in particular CXCR3 antagonists. For example, anthranilic acid was acylated with propionyl chloride and the amide cyclized using acetic anhydride to give 2-ethylbenzo[d][1,3]oxazine-4-one. Treatment with 4-fluoroaniline, followed by ethylene glycol and NaOH afforded 2-ethyl-3-(4-fluorophenyl)-3H-quinazolin-4-one. Bromination and stepwise addition of 1-amino-2-methoxyethane and decanoyl chloride produced the decanoic acid (quinazolinylethyl)(methoxyethyl)amide II. Approx. one third of the 101 invention compds. tested in a CXCR3 binding assay displayed activity with IC50 values of < 1  $\mu$ M. I are useful for the treatment of inflammatory and immunoregulatory disorders and diseases, such as multiple sclerosis, rheumatoid arthritis, and type I diabetes (no data).

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2002:293390 CAPLUS  
 DOCUMENT NUMBER: 136:304071  
 TITLE: Modulation of CCR4 function for disease therapy  
 INVENTOR(S): Collins, Tassie; Dairaghi, Daniel J.;



PATENT ASSIGNEE(S): Mahmud, Hoosen; McMaster, Brian E.; Medina, Julio  
 SOURCE: C.; Schall, Thomas J.; Xu, Feng; Wang, Xuemei  
 Tularik Inc., USA; Chemocentryx, Inc.  
 PCT Int. Appl., 78 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

| PATENT NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | KIND | DATE     | APPLICATION NO. | DATE     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| WO 2002030358                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A2   | 20020418 | WO 2001-US42625 | 20011011 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM<br>RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG                 |      |          |                 |          |
| CA 2425259                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | AA   | 20020418 | CA 2001-2425259 | 20011011 |
| AU 2002013467                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A5   | 20020422 | AU 2002-13467   | 20011011 |
| US 2002173524                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A1   | 20021121 | US 2001-975566  | 20011011 |
| EP 1578341                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | A2   | 20050928 | EP 2001-981850  | 20011011 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |          |                 |          |
| WO 2002094264                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A1   | 20021128 | WO 2002-US16393 | 20020522 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM<br>RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG |      |          |                 |          |
| US 2003018022                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A1   | 20030123 | US 2002-155605  | 20020522 |
| US 2004039035                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A1   | 20040226 | US 2003-654112  | 20030902 |
| PRIORITY APPLN. INFO.:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |          |                 |          |
| US 2000-240022P P 20001011<br>US 2001-293781P P 20010523<br>US 2001-975566 B3 20011011<br>WO 2001-US42625 W 20011011                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |          |                 |          |

OTHER SOURCE(S): MARPAT 136:304071

AB The present invention is directed to compds. which are modulators of CCR4 chemokine receptor function and are useful in the prevention or treatment of inflammatory conditions and diseases such as allergic diseases, psoriasis, atopic dermatitis and asthma. The invention is also directed to pharmaceutical compns. comprising these compds. and the use of these compds. and compns. in the prevention or treatment of diseases in which CCR4 chemokine receptors are involved. Compds. and compns. are provided that bind to the CCR4 chemokine receptor and which are useful for treating diseases associated with CCR4 activity, such as contact hypersensitivity.

L21 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:101989 CAPLUS

DOCUMENT NUMBER: 136:303881

TITLE: Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin

AUTHOR(S): Knowler, William C.; Barrett-Connor, Elizabeth; Fowler, Sarah E.; Hamman, Richard F.; Lachin, John M.; Walker, Elizabeth A.; Nathan, David M.; Bray, G. A.; Culbert, I. W.; Champagne, C. M.; Crow, M. D.; Dawson, L.; Eberhardt, B.; Greenway, F. L.; Guillory, F. G.; Herbert, A. A.; Jeffirs, M. L.; Joyce, K.; Kennedy, B. M.; Lovejoy, J. C.; Mancuso, S.; Melancon, L. E.; Morris, L. H.; Reed, L.; Perault, J.; Rau, K.; Ryan, D. H.; Sanford, D. A.; Smith, K. G.; Smith, L. L.; Smith, S. R.; St. Amant, J. A.; Terry, M.; Tucker, E.; Tulley, R. T.; Vicknair, P. C.; Williamson, D.; Zachwieja, J. J.; Ehrmann, D. A.; Matulik, M. J.; Clark, B.; Collins, D. A.; Czech, K. B.; DeSandre, C.; Geiger, G.; Frief, S.; Harding-Clay, B.; Hilbrich, R. M.; Le Grange, D.; McCormick, M. R.; McNabb, W. L.; Polonsky, K. S.; Sauter, N. P.; Semenske, A. R.; Stepp, K. A.; Tobian, J. A.; Watson, P. G.; Mendoza, J. T.; Smith, K. A.; Caro, J.; Goldstein, B.; Lark, C.; Menefee, L.; Murphy, L.; Pepe, C.; Spandorfer, J. M.; Goldberg, R. B.; Rowe, P.; Calles, J.; Casanova, P.; Donahue, R. P.; Florez, H. J.; Giannella, A.; Larreal, G.; McLymont, V.; Mendez, J.; O'Hara, P.; Ojito, J.; Prineas, R.; Saab, P. G.; Haffner, S. M.; Montez, M. G.; Lorenzo, C.; Mietinen, H.; Mobley, C. M.; Mykkanen, L. A.; Rozek, M. M.; Hamman, R. F.; Nash, P. V.; Testaverde, L.; Anderson, D. R.; Ballonoff, L. B.; Bouffard, A.; Calonge, B. N.; Farago, M.; Georgitis, W. J.; Hill, J. O.; Hoyer, S. R.; Jortberg, B. T.; Merenich, J. A.; Miller, M.; Regensteiner, J. G.; Seagle, H. M.; Smith, C. M.; Steinke, S. C.; Van Dorsten, B.; Horton, E. S.; Lawton, K. E.; Arky, R. A.; Bryant, M.; Burke, J. P.; Caballero, E.; Callaghan, K. M.; Devlin, D.; Franklin, T.; Ganda, O. P.; Goebel-Fabbri, A. E.; Harris, M.; Jackson, S. D.; Jacobsen, A. M.; Kula, L. M.; Kocal, M.; Ledbury, S.; Malloy, M. A.; Mullooly, C.; Nicosia, M.; Oldmixon, C. F.; Pan, J.; Pomposelli, C.; Quitongan, M.; Rubtchinsky, S.; Schweizer, D.; Seely, E. W.; Simonson, D.; Smith, F.; Solomon, C. G.; Tyson, J.; Warram, J.; Kahn, S. E.; Montgomery, B. K.; Alger, M.; Allen, E.; Barrett, T.; Bhanji, D.; Cowan, J.; Cullen, J.; Fujimoto, W. Y.; Katz, B.; Knopp, R. H.; Lipkin, E. W.; Marr, M.; McCann, B. S.; Palmer, J. P.; Schwartz, R. S.; Uyema, D.; Kitabachi, A. E.; Murphy, M. E.; Applegate, W. B.; Bryer-Ash, M.; Coble, J. H.; Crisler, A.; Cunningham, G.; Franklin, A. W.; Frieson, S. L.; Green, D. L.; Imseis, R.; Kennedy, C. L.; Lambeth, H. C.; Latif, K. A.; Lichtermann, L. C.; McIntyre, M. D.; Nault, J. D.; Oktaei, H.; O'Toole, M. L.; Ricks, H.; Rutledge, L. M. K.; Schussler, S. C.; Sherman, A. R.; Smith, C. M.; Soberman, J. E.; Stewart, K. J.; Van Brunt, D. L.; Williams-Cleaves, B. J.; Johnson, M. K.; Behrends, C.; Cook, M. L.; Fitzgibbon, M.; Giles, M. M.; Heard, D.; Johnson, C.; Larsen, D.; Lowe, A.; Lyman, M.; McPherson, D.; Molitch, M. E.; Pitts, T.; Reinhart, R.; Roston, S.; Schinleber, P. A.; Nathan, D. M.; McKitrick, C.;

Abbott, K.; Anderson, E.; Bissett, L.; Cagliero, E.;  
 Crowell, S.; Delahanty, L.; Fritz, S.; Hayward, K.;  
 Levina, E.; Michel, T.; Norman, D.; O'Keefe, J.;  
 Poulos, A.; Ronan, L.; Rosal, M.; Salerno, M.;  
 Schneider, M.; Shagensky, C.; Steiner, B.; Turgeon,  
 H.; Young, A.; Olefsky, J. M.; Carrion-Petersen, M.  
 L.; Barrett-Connor, E.; Beltran, M.; Caenepeel-Mills,  
 K.; Edelman, S. V.; Ford, R. O.; Garcia, J.; Hagerty,  
 M.; Henry, R. R.; Hill, M.; Horne, J.; Leos, D.;  
 Matney, J.; Mudaliar, S.; Petersen, G.; Pollard, A.;  
 Polonsky, W.; Szerdi, S.; Torio-Hurley, J.; Vejvoda,  
 K.; Pi-Sunyer, F. X.; Lee, J. E.; Allison, D. B.;  
 Agharanya, N.; Aronoff, N. J.; Baldo, M.; Foo, S. T.;  
 Hagamen, S.; Pal, C.; Parkes, K.; Pena, M.; Van Wye,  
 G. E. H.; Marrero, D. G.; Kukman-Kelly, M. S.; Dorson,  
 Y. F.; Fineberg, S. E.; Guare, J. C.; Hadden, A.;  
 Hills, B.; Ignaut, J. M.; Jackson, M. A.; Kirkman, M.  
 S.; Mather, K.; McAree, G.; Porter, B. D.; Prince, M.  
 J.; Wheeler, M. L.; Ratner, R. E.; Youssef, G.;  
 Shapiro, S.; Bonar, A.; Bronsord, M.; Brown, E.;  
 Cheatham, W. W.; Cola, S.; Comfort, A.; Boggs, G.;  
 Eagle, C.; Evans, C.; Gorman, E.; Johnson, R.;  
 Levetan, C.; Kellum, T.; Lagarda, M.; Nair, A. K.;  
 Passaro, M. D.; Phillips, W.; Saad, M. F.; Budgett,  
 M.; Fahmi, S.; Jinagouda, S. D.; Bernaba, B.; Bodkin,  
 S. L.; Ciobanu, V.; Commisso, R.; Cosenza, C.; Dinh,  
 T.; Gonzalez, M.; Khan, A.; Kumar, D.; Lui, G.; Mehra,  
 V.; Sharma, A.; Soukiazian, S.; Szamos, K.; Tramanian,  
 A.; Vargas, A.; Zambrana, N.; White, N. H.; Santiago,  
 A. S.; Das, S.; Brown, A. L.; Dagogo-Jack, S.; Fisher,  
 E. B.; Hurt, E.; Jones, T.; Kerr, M.; Ryder, L.;  
 Santiago, J. V.; Wernimont, C.; Saudek, C. D.;  
 Bradley, V. L.; Fowlkes, T.; Joseph, H.; Brancati, F.  
 L.; Charleston, J. B.; Clark, J. M.; Horak, K.;  
 Jiggetts, D.; Mosley, H.; Rubin, R. R.; Samuels, A.;  
 Stewart, K. J.; Thomas, L.; Williamson, P.; Schade, D.  
 S.; Adams, K. S.; Atler, L. F.; Bland, A.; Bowling, D.  
 A.; Boyle, P. J.; Burge, M. R.; Butler, L.; Canady, J.  
 L.; Chai, L.; Colleran, K. M.; Guillen, M.; Gonzales,  
 Y.; Gutierrez, M.; Hornbeck, D.; Johannes, C.; Karz,  
 P.; King, C.; Libby, E. N., III; McCalman, R.;  
 Montoya, D. A.; Rassam, A.; Rubinchik, S.; Senter, W.;  
 Shamoon, H.; Brown, J. O.; Adames, J.; Blanco, E.;  
 Cox, L.; Crandall, J. P.; Duffy, H.; Engel, S.;  
 Friedler, A.; Harroun, T.; Howard-Century, C. J.;  
 Kloiber, S.; Longchamp, N.; Pompei, D.; Violino, E.;  
 Walker, E. A.; Wylie-Rosett, J.; Zimmerman, E.;  
 Zonszein, J.; Wing, R. R.; Kramer, M. K.; Barr, S.;  
 Boraz, M. A.; Clifford, L.; Culyba, R.; Frazier, M.;  
 Gilligan, R.; Harris, L.; Harrier, S.; Henderson, W.;  
 Jeffreis, S.; Koenning, G.; Kriska, A. M.; Maholic,  
 K.; Manjoo, Q.; Mullen, M.; Noel, A.; Orchard, T. J.;  
 Orro, A.; Semler, L. N.; Smith, C.; Smith, M.;  
 Stapinski, V.; Viteri, J.; Wilson, T.; Williams, K.  
 V.; Zgibor, J.; Arakaki, R. F.; Latimer, R. W.;  
 Baker-Ladao, N. K.; Beddow, R. M.; Braginsky, R.;  
 Calizar, M.; Dias, L. M.; Durham, N.; Dupont, D. A.;  
 Fukuhara, L. L.; Inouye, J.; Mau, M. K.; Mikami, K.;  
 Mohideen, P.; Odom, S. K.; Sinkuie-Kam, B.; Tokunaga,

J. S.; Twiggs, R. U.; Wang, C. Y.; Vita, J.; Knowler, W. C.; Coeate, N. J.; Hoskin, M. A.; Percy, C. A.; Acton, K. J.; Andre, V. L.; Antone, S.; Baptisto, N. M.; Barber, R.; Segay, S.; Bennett, P. H.; Benson, M. B.; Beyale, S.; Bird, E. C.; Bróussard, B. A.; Chavez, M.; Daeawyma, T. S.; Doughty, M. S.; Duncan, R.; Edgerton, C.; Ghahate, J. M.; Glass, M.; Gohdes, D.; Grant, W.; Hanson, R. L.; Horse, E.; Hughte, G.; Ingraham, L. E.; Jackson, M. C.; Jay, P. A.; Kaskalla, R. S.; Kessler, D.; Kobus, K. M.; Krakoff, J.; Manus, C.; Morgan, T.; Nashboo, Y.; Nelson, J.; Pauk, G. L.; Poirier, S.; Polczynski, E.; Reidy, M.; Roumain, J.; Rowse, D. H.; Roy, R. J.; Sangster, S.; Sewemaenewa, J.; Tonemah, D.; Wilson, C.; Yazzie, M.; Fowler, S.; Brenneman, T.; Abebe, S.; Bain, R.; Bamdad, J.; Callaghan, J.; Edelstein, S. L.; Gao, Y.; Grimes, K. L.; Grover, N.; Hirst, K.; Jones, S.; Jones, T. L.; Katz, R. J.; Lachin, J. M.; Orlosky, R.; Stimpson, C. E.; Suiter, C.; Temprosa, M. G.; Walker-Murray, F. E. M.; Garfield, S.; Eastman, R.; Fradkin, J.; Andres, R.; Engelgau, M. M.; Venkat Narayan, K. M.; Williamson, D. F.; Herman, W. H.; Marcovina, S. M.; Aldrich, A.; Chandler, W. L.; Rautaharju, P. M.; Pemberton, N. T.; Prineas, R.; Rautaharju, F. S. R.; Zhang, Z.; Mayer-Davis, E. J.; Costacou, T.; Martin, M.; Sparks, K. L.; O'Leary, D. H.; Funk, L. R. C.; O'Leary, K. A.; Polak, J. F.; Stamm, E. R.; Scherzinger, A. L.; Wing, R. R.; Gillis, B. P.; Huffmyer, C.; Kriska, A. M.; Venditti, E. M.; Walker, E. A.; Harroun, T.; Ganiats, T. G.; Groessl, E. J.; Beerman, P. R.; David, K. M.; Kaplan, R. M.; Sieber, W. J.; Genuth, S. M.; Cahill, G. F.; Ferris, F. L., III; Gavin, J. R., III; Halter, J. B.; Wittes, J.; Henry, R. R.; Haffner, S. M.; Rubin, R. R.; Montgomery, B. K.; Ratner, R. E.; Herman, W. H.; Kahn, S. E.; Santiago, J. V.; Olefsky, J.; Wing, R. R.; Saudek, C.; Montez, M.; Kramer, K.; Hamman, R. F.; Knowler, W. C.; Goldberg, R. B.; Fujimoto, W. Y.; Charleston, J.; Nathan, D. M.

CORPORATE SOURCE:

SOURCE:

PUBLISHER:

DOCUMENT TYPE:

LANGUAGE:

Diabetes Prevention Program Coordinating Center,  
Washington Univ., Rockville, MD, 20852, USA  
New England Journal of Medicine (2002), 346(6),  
393-403  
CODEN: NEJMAG; ISSN: 0028-4793  
Massachusetts Medical Society  
Journal  
English

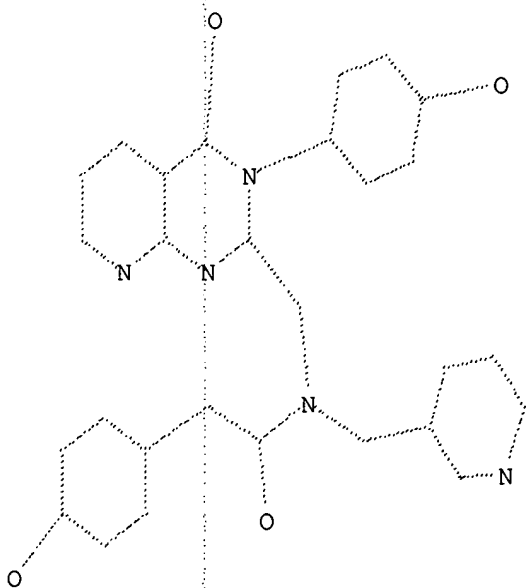
AB Type 2 diabetes affects approx. 8 % of adults in the United States. Some risk factors - elevated plasma glucose concns. in the fasting state and after an oral glucose load, over-weight, and a sedentary lifestyle - are potentially reversible. We hypothesized that modifying these factors with a lifestyle-intervention program or the administration of metformin would prevent or delay the development of diabetes. We randomly assigned 3234 nondiabetic persons with elevated fasting and post-load plasma glucose concns. to placebo, metformin (850 mg twice daily), or a lifestyle-modification program with the goals of at least a 7 % weight loss and at least 150 min of phys. activity per wk. The mean age of the participants was 51 yr, and the mean body-mass index (the weight in kilograms divided by the square of the height in meters) was 34.0; 68 % were women,

and 45 % were members of minority groups. The average follow-up was 2.8 yr. The incidence of diabetes was 11.0, 7.8, and 4.8 cases per 100 person-years in the placebo, metformin, and life-style groups, resp. The lifestyle intervention reduced the incidence by 58 % (95 % confidence interval, 48 to 66 %) and metformin by 31 % (95 % confidence interval, 17 to 43 %), as compared with placebo; the lifestyle intervention was significantly more effective than metformin. To prevent one case of diabetes during a period of three years, 6.9 persons would have to participate in the lifestyle-intervention program, and 13.9 would have to receive metformin. Lifestyle changes and treatment with metformin both reduced the incidence of diabetes in persons at high risk. The lifestyle intervention was more effective than metformin.

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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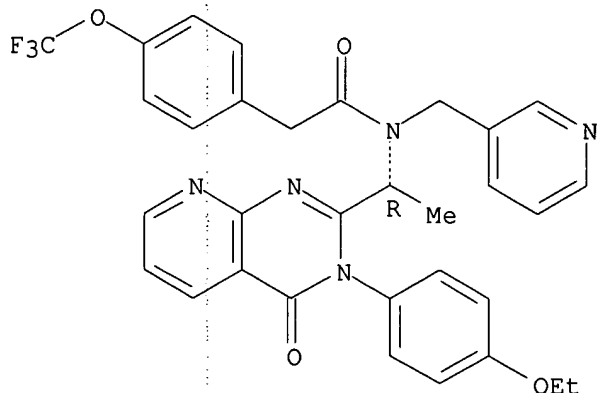
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L9 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2004:740142 CAPLUS  
 DOCUMENT NUMBER: 141:248743  
 TITLE: CXCR3 antagonists containing N-(heteroarylalkyl)acylamides  
 INVENTOR(S): Collins, Tassie L.; Johnson, Michael G.; Ma, Ji; Medina, Julio C.; Miao, Shichang; Schneider, Manfred; Tonn, George R.  
 PATENT ASSIGNEE(S): Tularik Inc., USA  
 SOURCE: PCT Int. Appl., 43 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | KIND | DATE     | APPLICATION NO.       | DATE         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------------|--------------|
| WO 2004075863                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | A2   | 20040910 | WO 2004-US5960        | 20040227     |
| WO 2004075863                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | A3   | 20041209 |                       |              |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI<br>RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG |      |          |                       |              |
| US 2004242498                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | A1   | 20041202 | <u>US 2004-789165</u> | 20040226 <-- |
| EP 1603896                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | A2   | 20051214 | EP 2004-715730        | 20040227     |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK                                                                                                                                                                                                                                                                                                                                                                           |      |          |                       |              |
| PRIORITY APPLN. INFO.:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |          | US 2003-451157P       | P 20030227   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      |          | WO 2004-US5960        | W 20040227   |
| OTHER SOURCE(S): MARPAT 141:248743                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |          |                       |              |
| AB Comps., compns. and methods that are useful in the treatment of inflammatory and immune conditions and diseases are provided herein. In particular, the invention provides compds. which modulate the expression and/or function of a chemokine receptor. The subject methods are useful for the treatment of inflammatory and immunoregulatory disorders and diseases, such as multiple sclerosis, rheumatoid arthritis and type I diabetes.                                                        |      |          |                       |              |
| IT 473719-41-4P<br>RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)<br>(CXCR3 antagonists containing N-(heteroarylalkyl)acylamides for treatment of CXCR3-mediated conditions)                                                                                                                                                                                                              |      |          |                       |              |
| RN 473719-41-4 CAPLUS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |          |                       |              |
| CN Benzeneacetamide, N-[(1R)-1-[3-(4-ethoxyphenyl)-3,4-dihydro-4-oxopyrido[2,3-d]pyrimidin-2-yl]ethyl]-N-(3-pyridinylmethyl)-4-(trifluoromethoxy)- (9CI) (CA INDEX NAME)                                                                                                                                                                                                                                                                                                                                |      |          |                       |              |

Absolute stereochemistry.



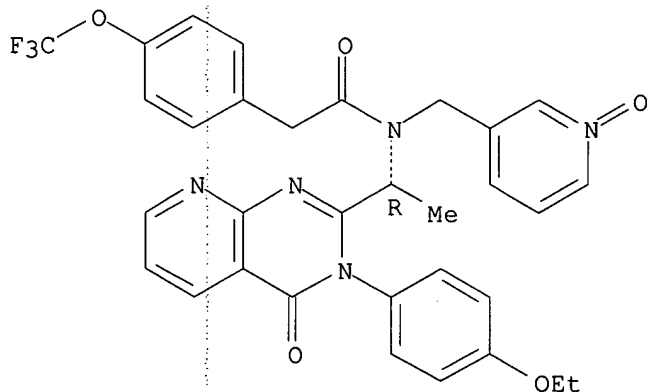
IT 752244-90-9 752244-91-0 752244-92-1  
752244-93-2 752244-94-3

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(CXCR3 antagonists containing N-(heteroarylalkyl)acylamides for treatment  
of CXCR3-mediated conditions)

RN 752244-90-9 CAPLUS

CN Benzeneacetamide, N-[(1R)-1-[3-(4-ethoxyphenyl)-3,4-dihydro-4-oxopyrido[2,3-d]pyrimidin-2-yl]ethyl]-N-[(1-oxido-3-pyridinyl)methyl]-4-(trifluoromethoxy)- (9CI) (CA INDEX NAME)

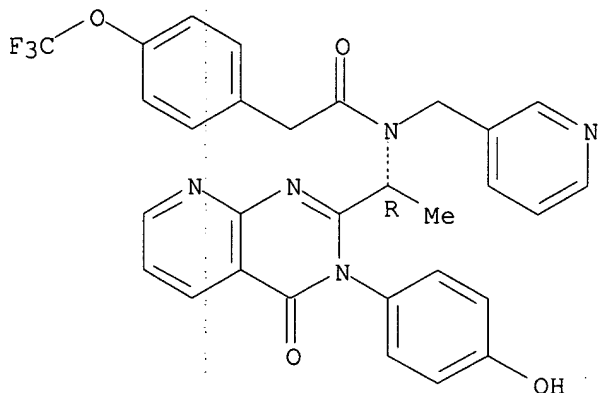
Absolute stereochemistry.



RN 752244-91-0 CAPLUS

CN Benzeneacetamide, N-[(1R)-1-[3,4-dihydro-3-(4-hydroxyphenyl)-4-oxopyrido[2,3-d]pyrimidin-2-yl]ethyl]-N-(3-pyridinylmethyl)-4-(trifluoromethoxy)- (9CI) (CA INDEX NAME)

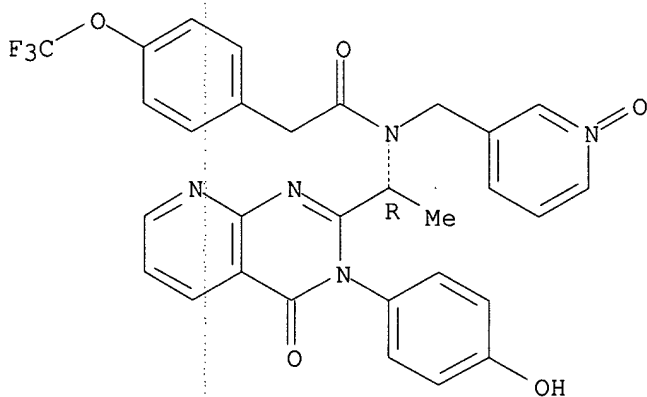
Absolute stereochemistry.



RN 752244-92-1 CAPLUS

CN Benzeneacetamide, N-[(1R)-1-[3,4-dihydro-3-(4-hydroxyphenyl)-4-oxopyrido[2,3-d]pyrimidin-2-yl]ethyl]-N-[(1-oxido-3-pyridinyl)methyl]-4-(trifluoromethoxy)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

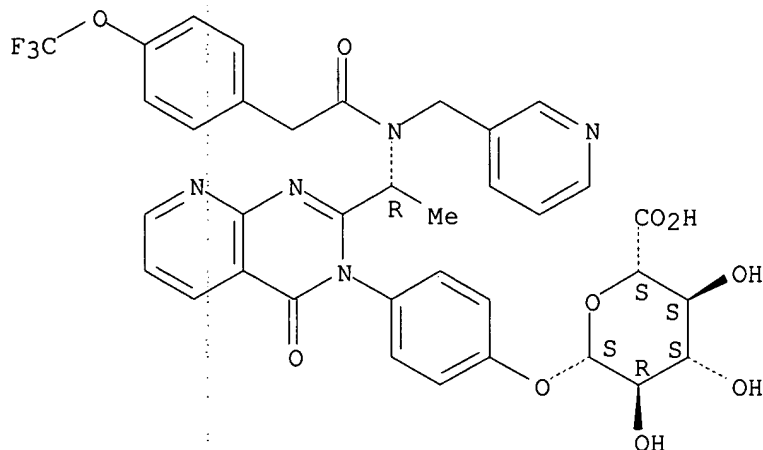


RN 752244-93-2 CAPLUS

CN  $\beta$ -D-Glucopyranosiduronic acid, 4-[4-oxo-2-[(1R)-1-[(3-pyridinylmethyl)[[4-(trifluoromethoxy)phenyl]acetyl]amino]ethyl]pyrido[2,3-d]pyrimidin-3(4H)-yl]phenyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.

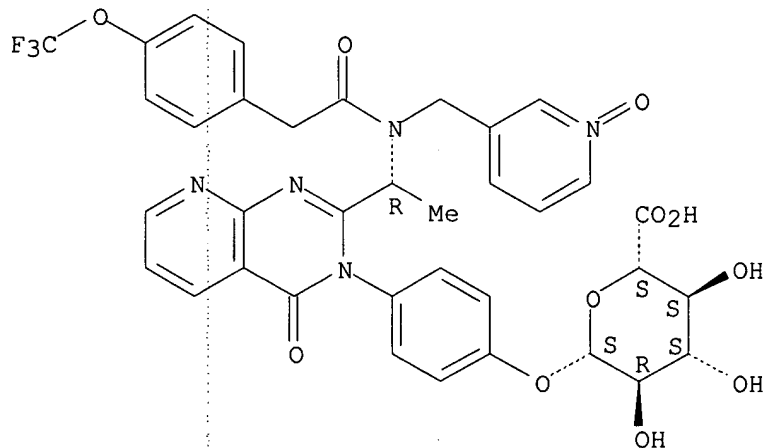




RN 752244-94-3 CAPLUS

CN  $\beta$ -D-Glucopyranosiduronic acid, 4-[2-[(1R)-1-[[[1-oxido-3-pyridinyl)methyl][4-(trifluoromethoxy)phenyl]acetyl]amino]ethyl]-4-oxopyrido[2,3-d]pyrimidin-3(4H)-yl]phenyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:813938 CAPLUS

DOCUMENT NUMBER: 137:337907

TITLE: Preparation of N-(heteroarylalkyl)acylamides as CXCR3 antagonists for treatment of inflammatory or immune conditions

INVENTOR(S): Medina, Julio C.; Johnson, Michael G.; Li, An-Rong; Liu, Jiwen; Huang, Alan Xi; Zhu, Liusheng; Marcus, Andrew P.

PATENT ASSIGNEE(S): Tularik Inc., USA

SOURCE: PCT Int. Appl., 205 pp.

CODEN: PIXXD2

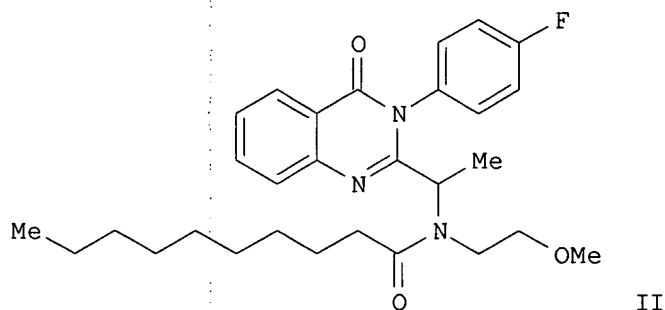
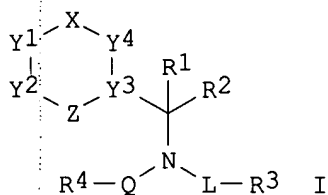
DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

| PATENT NO.                                                                                                                                                                                                                                                                                                                                                            | KIND              | DATE     | APPLICATION NO. | DATE        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------|-----------------|-------------|
| WO 2002083143                                                                                                                                                                                                                                                                                                                                                         | A1                | 20021024 | WO 2001-US47850 | 20011211    |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW |                   |          |                 |             |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG                                                                                                                                                                    |                   |          |                 |             |
| CA 2431553                                                                                                                                                                                                                                                                                                                                                            | AA                | 20021024 | CA 2001-2431553 | 20011211    |
| US 2002169159                                                                                                                                                                                                                                                                                                                                                         | A1                | 20021114 | US 2001-15532   | 20011211    |
| US 6964967                                                                                                                                                                                                                                                                                                                                                            | B2                | 20051115 |                 |             |
| EP 1343505                                                                                                                                                                                                                                                                                                                                                            | A1                | 20030917 | EP 2001-273533  | 20011211    |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR                                                                                                                                                                                                                                                             |                   |          |                 |             |
| JP 2004536796                                                                                                                                                                                                                                                                                                                                                         | T2                | 20041209 | JP 2002-580947  | 20011211    |
| CN 1575177                                                                                                                                                                                                                                                                                                                                                            | A                 | 20050202 | CN 2001-822596  | 20011211    |
| BR 2001016096                                                                                                                                                                                                                                                                                                                                                         | A                 | 20051018 | BR 2001-16096   | 20011211    |
| US 2003069234                                                                                                                                                                                                                                                                                                                                                         | A1                | 20030410 | US 2002-164690  | 20020606    |
| US 6794379                                                                                                                                                                                                                                                                                                                                                            | B2                | 20040921 |                 |             |
| US 2003055054                                                                                                                                                                                                                                                                                                                                                         | A1                | 20030320 | US 2002-231895  | 20020829    |
| US 7053215                                                                                                                                                                                                                                                                                                                                                            | B2                | 20060530 |                 |             |
| ZA 2003004342                                                                                                                                                                                                                                                                                                                                                         | A                 | 20050509 | ZA 2003-4342    | 20030603    |
| NO 2003002612                                                                                                                                                                                                                                                                                                                                                         | A                 | 20030805 | NO 2003-2612    | 20030610    |
| US 2005075333                                                                                                                                                                                                                                                                                                                                                         | A1                | 20050407 | US 2004-946935  | 20040921    |
| US 7067662                                                                                                                                                                                                                                                                                                                                                            | B2                | 20060627 |                 |             |
| US 2006116388                                                                                                                                                                                                                                                                                                                                                         | A1                | 20060601 | US 2006-332054  | 20060113    |
| PRIORITY APPLN. INFO.:                                                                                                                                                                                                                                                                                                                                                |                   |          | US 2000-255241P | P 20001211  |
|                                                                                                                                                                                                                                                                                                                                                                       |                   |          | US 2001-296499P | P 20010606  |
|                                                                                                                                                                                                                                                                                                                                                                       |                   |          | US 2001-15532   | A1 20011211 |
|                                                                                                                                                                                                                                                                                                                                                                       |                   |          | WO 2001-US47850 | W 20011211  |
|                                                                                                                                                                                                                                                                                                                                                                       |                   |          | US 2002-164690  | A1 20020606 |
|                                                                                                                                                                                                                                                                                                                                                                       |                   |          | US 2002-231895  | A1 20020829 |
| OTHER SOURCE(S):                                                                                                                                                                                                                                                                                                                                                      | MARPAT 137:337907 |          |                 |             |
| GI                                                                                                                                                                                                                                                                                                                                                                    |                   |          |                 |             |



AB Title compds. I [wherein X = a bond, CO, CR5R6, CR5:, SO, SO2, or N: ; Z = a bond, N:, O, S, NR17, or CR7: ; with the proviso that X and Z are not both a bond; L = CO-alkylene or (hetero)alkylene; Q = (hetero)alkylene, CO, OCO, NR8CO, CH2CO, CH2SO, or CH2SO2; or NLQ = heterocyclyl; R1 and R2 = independently H, (hetero)alkyl, or (hetero)aryl; or CR1R2 = (hetero)cyclyl; or CNR2L = heterocyclyl; R3 = OH, alkoxy, NH2, (di)alkylamino, heteroalkyl, heterocyclyl, acylaminoamidino, guanidino, ureido, CN, heteroaryl, carbamoyl, or carboxy; R4 = (hetero)alkyl, (hetero)aryl, etc.; R5 and R6 = independently H, (hetero)alkyl, or (hetero)aryl; or CR5R6 = a ring; R7 and R8 = independently H, (hetero)alkyl, or (hetero)aryl; Y1 and Y2 = independently CR12: N:, O, S, or NR13; Y3 = N or C, wherein C shares a double bond with either Z or Y4; Y4 = NR14, CR14:, N:, NR14CR15R16; R12 = H, halo, OH, NH2, (di)alkylamino, (hetero)alkyl, or (hetero)aryl, with provisos; R13 = H, (hetero)alkyl, (hetero)aryl, etc.; R14 = (hetero)alkyl, (hetero)aryl, etc.; R15 and R16 = independently H or (hetero)alkyl; R17 = H, (hetero)alkyl, (hetero)aryl, etc.; with provisos] were prepared as chemokine receptor modulators, in particular CXCR3 antagonists. For example, anthranilic acid was acylated with propionyl chloride and the amide cyclized using acetic anhydride to give 2-ethylbenzo[d][1,3]oxazine-4-one. Treatment with 4-fluoroaniline, followed by ethylene glycol and NaOH afforded 2-ethyl-3-(4-fluorophenyl)-3H-quinazolin-4-one. Bromination and stepwise addition of 1-amino-2-methoxyethane and decanoyl chloride produced the decanoic acid (quinazolinylethyl)(methoxyethyl)amide II. Approx. one third of the 101 invention compds. tested in a CXCR3 binding assay displayed activity with IC50 values of < 1  $\mu$ M. I are useful for the treatment of inflammatory and immunoregulatory disorders and diseases, such as multiple sclerosis, rheumatoid arthritis, and type I diabetes (no data).

IT 473720-05-7P

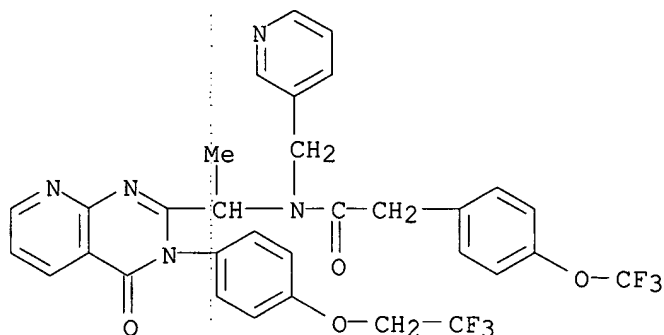
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(CXCR3 antagonist; preparation of N-(heteroarylalkyl)acylamides as CXCR3 antagonists for treatment of inflammatory or immune conditions)

RN 473720-05-7 CAPLUS

CN Benzeneacetamide, N-[1-[3,4-dihydro-4-oxo-3-[4-(2,2,2-

trifluoroethoxy)phenyl]pyrido[2,3-d]pyrimidin-2-yl]ethyl]-N-(3-pyridinylmethyl)-4-(trifluoromethoxy)- (9CI) (CA INDEX NAME)



IT 473719-41-4P 473720-06-8P 473720-30-8P

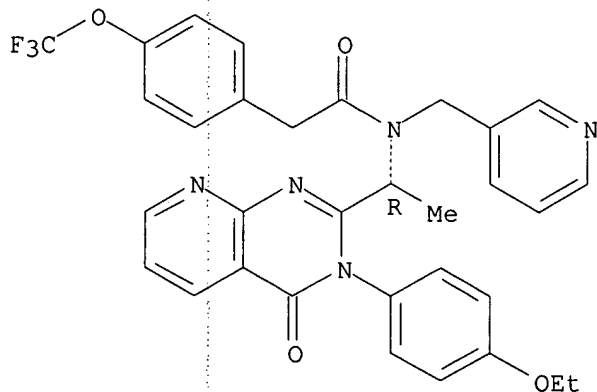
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(CXCR3 antagonist; preparation of N-(heteroarylalkyl)acylamides as CXCR3 antagonists for treatment of inflammatory or immune conditions)

RN 473719-41-4 CAPLUS

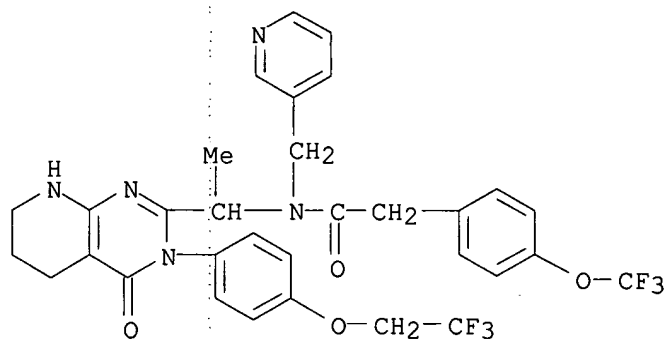
CN Benzeneacetamide, N-[1-[3,4,5,6,7,8-hexahydro-4-oxo-3-[4-(2,2,2-trifluoroethoxy)phenyl]pyrido[2,3-d]pyrimidin-2-yl]ethyl]-N-(3-pyridinylmethyl)-4-(trifluoromethoxy)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 473720-06-8 CAPLUS

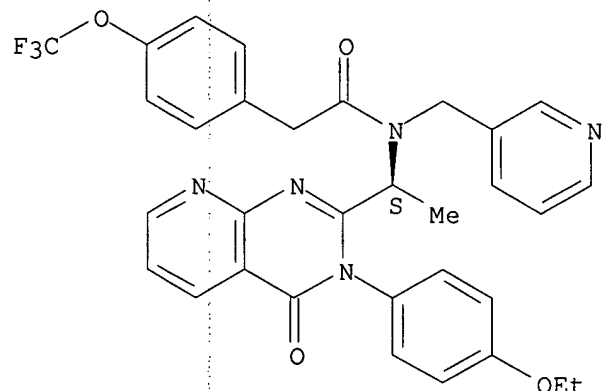
CN Benzeneacetamide, N-[1-[3,4,5,6,7,8-hexahydro-4-oxo-3-[4-(2,2,2-trifluoroethoxy)phenyl]pyrido[2,3-d]pyrimidin-2-yl]ethyl]-N-(3-pyridinylmethyl)-4-(trifluoromethoxy)- (9CI) (CA INDEX NAME)



RN 473720-30-8 CAPLUS

CN Benzeneacetamide, N-[(1S)-1-[3-(4-ethoxyphenyl)-3,4-dihydro-4-oxopyrido[2,3-d]pyrimidin-2-yl]ethyl]-N-(3-pyridinylmethyl)-4-(trifluoromethoxy)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> file marpat

FILE 'MARPAT' ENTERED AT 10:16:00 ON 13 JUL 2006

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FILE CONTENT: 1961-PRESENT VOL 145 ISS 2 (20060707/ED)

SOME MARPAT RECORDS ARE DERIVED FROM INPI DATA FOR 1961-1987

MOST RECENT CITATIONS FOR PATENTS FROM MAJOR ISSUING AGENCIES (COVERAGE TO THESE DATES IS NOT COMPLETE):

US 2006118302 08 JUN 2006

DE 102004052060 27 APR 2006

EP 1650181 26 APR 2006

JP 2006111933 27 APR 2006

WO 2006053912 26 MAY 2006

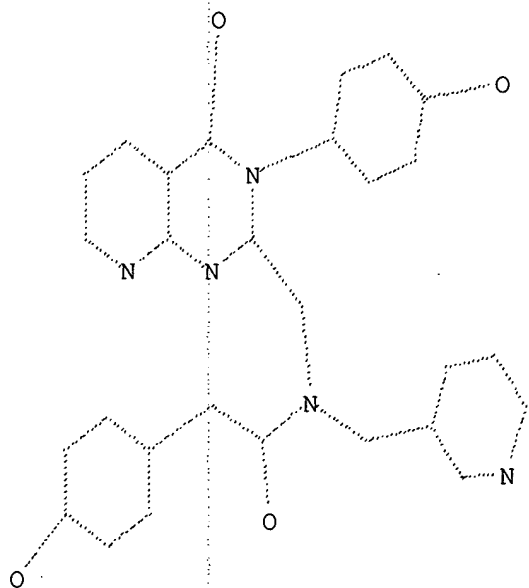
GB 2419093 19 APR 2006  
FR 2877004 28 APR 2006  
RU 2273632 10 APR 2006  
CA 2518664 10 MAR 2006

Expanded G-group definition display now available.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

=> d que 113

L1 STR



Structure attributes must be viewed using STN Express query preparation.

L3 9 SEA FILE=REGISTRY SSS FUL L1  
L4 1 SEA FILE=CAPLUS ABB=ON PLU=ON US2004-789165/AP  
L5 15 SEA FILE=REGISTRY ABB=ON PLU=ON (1121-60-4/BI OR 156-43-4/BI  
OR 4315-07-5/BI OR 473719-41-4/BI OR 473720-89-7/BI OR  
473720-92-2/BI OR 5345-47-1/BI OR 752244-90-9/BI OR 752244-91-0  
/BI OR 752244-92-1/BI OR 752244-93-2/BI OR 752244-94-3/BI OR  
752244-95-4/BI OR 752244-96-5/BI OR 7764-95-6/BI)  
L6 6 SEA FILE=REGISTRY ABB=ON PLU=ON L5 AND L3  
L7 2 SEA FILE=CAPLUS ABB=ON PLU=ON L6  
L8 2 SEA FILE=CAPLUS ABB=ON PLU=ON L3  
L9 2 SEA FILE=CAPLUS ABB=ON PLU=ON (L7 OR L8 OR L4)  
L12 3 SEA FILE=MARPAT SSS FUL L1  
L13 2 SEA FILE=MARPAT ABB=ON PLU=ON L12 NOT L9

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L13 ANSWER 1 OF 2 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:

144:128994 MARPAT

TITLE:

Tetrahydroquinazolin-4(3H)-one-related and  
tetrahydropyrido[2,3-d]pyrimidin-4(3H)-one-related

compounds, and their preparation, and pharmaceutical compositions for modulating CXCR3 chemokine receptor and for treatment of inflammatory and immune conditions or disorders

INVENTOR(S): Fu, Zice; Johnson, Michael G.; Li, An-Rong; Marcus, Andrew P.; Medina, Julio C.; Bergeron, Philippe; Chen, Xiaoqi; Deignan, Jeffrey; Du, Xiaohui; Duquette, Jason A.; Gustin, Darin; Mihalic, Jeffrey T.

PATENT ASSIGNEE(S): Amgen Sf, LLC, USA

SOURCE: PCT Int. Appl., 86 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

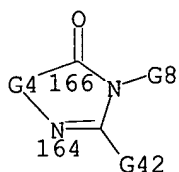
| PATENT NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | KIND | DATE     | APPLICATION NO. | DATE     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| WO 2006004925                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | A1   | 20060112 | WO 2005-US23275 | 20050628 |
| <p>W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW</p> <p>RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM</p> |      |          |                 |          |
| US 2006069106                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | A1   | 20060330 | US 2005-168006  | 20050627 |
| PRIORITY APPLN. INFO.:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |          | US 2004-583823P | 20040628 |
| GI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |          |                 |          |

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

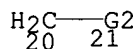
AB Compds. of formula I where Q is CO, CH<sub>2</sub>CO, CH<sub>2</sub>SO, or CH<sub>2</sub>SO<sub>2</sub>; L is a bond or C1-5 alkylene; A1, A2 and A3 are independently selected from C(R')(R'') or CO; A4 is C(R')(R'') or N(R''') where each R' and R'' is independently selected from H, halo, C1-8 alkyl, C2-8 heteroalkyl, C1-4 fluoroalkyl, (hetero)aryl, (hetero)aryl-C1-8-alkyl, optionally, R' and R'' groups on adjacent carbon may be combined to form a 5- or 6-membered fused ring, and R' and R'' groups attached to the same carbon atom may be combined to form a 3- to 8-membered spirocyclic ring; R''' is H, C1-8 alkyl or C2-8 heteroalkyl; R1 is (hetero)aryl; R2 is H, halo, C1-10 (heterocyclo)alkyl, C2-10 heteroalkyl, C1-10 alkylaryl or C2-10 alkylheteroaryl, optionally R2 may be combined with L to form a 5-, 6-, 7-, or 8-membered ring containing 1-3 heteroatoms selected from N, O, or S; R3 is absent or H, CHR<sub>6</sub>R<sub>7</sub>, S(O)mR<sub>5</sub>, S(O)mN(R<sub>8</sub>)R<sub>9</sub>, N(R<sub>8</sub>)SO<sub>2</sub>R<sub>5</sub>, N(R<sub>8</sub>)CH<sub>2</sub>R<sub>10</sub>, or certain aza/cyclic groups; R4 = (hetero)alkyl, (hetero)aryl, (hetero)aryl(hetero)alkyl; where R5 is C1-8 alkyl, or C2-8 heteroalkyl, (hetero)aryl; R6 and R7 independently are H, C1-8 alkyl, or C2-8 heteroalkyl; R8 is H, C1-8 alkyl, C2-8 heteroalkyl, or (hetero)aryl; R9 is C1-8 alkyl or CH<sub>2</sub>R<sub>6</sub>, R10 is aryl, m is 0, 1 or 2; with provisos; or a pharmaceutical acceptable salt or prodrug thereof are disclosed in this invention. The subject compds. were useful for

treatment of inflammatory and immune conditions and diseases. Compns. and methods of treatment using the invention compds. are also provided. For example, the subject methods were useful for treatment of inflammatory and immune disorders and disease such as multiple sclerosis, rheumatoid arthritis, psoriasis, and inflammatory bowel disease. Example compound II was prepared via conjugate addition of amine III to Et vinyl sulfone, followed by acylation with in situ-prepared 4-fluoro-3-trifluoromethylphenylacetyl chloride and hydrogenation. The invention compds. were useful for modulating CXCR3 chemokine receptor (no data) and for treatment of inflammatory and immune conditions or disorders (no data).

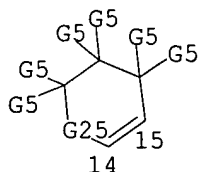
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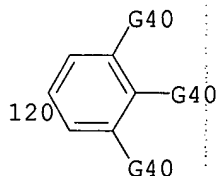
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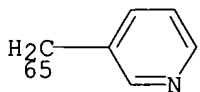
G2 = C(O)  
 G3 = bond  
 G4 = 14-164 15-166



G8 = 120



G12 = 65

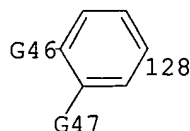


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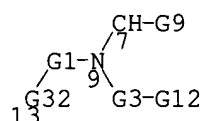


N—G43  
141

G32 = 128



G40 = OH  
G42 = 7



G46 = OCF3

Patent location:

claim 1

Note:

or pharmaceutically acceptable salts, or prodrugs

Note:

substitution is restricted

Note:

additional ring formation also claimed

REFERENCE COUNT:

4

THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 2 OF 2 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:

144:128993 MARPAT

TITLE:

Preparation of fused pyrimidine derivatives as CXCR3  
receptor modulators for prevention and treatment of  
inflammatory and immunoregulatory conditions

INVENTOR(S):

Fu, Zice; Johnson, Michael G.; Li, An-Rong; Marcus,  
Andrew P.; Medina, Julio C.; Bergeron, Philippe; Chen,  
Xiaoqi; Deignan, Jeffrey; Du, Xiaohui; Duquette, Jason  
A.; Gustin, Darin; Mihalic, Jeffrey T.

PATENT ASSIGNEE(S):

Amgen Inc., USA

SOURCE:

PCT Int. Appl., 80 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 1

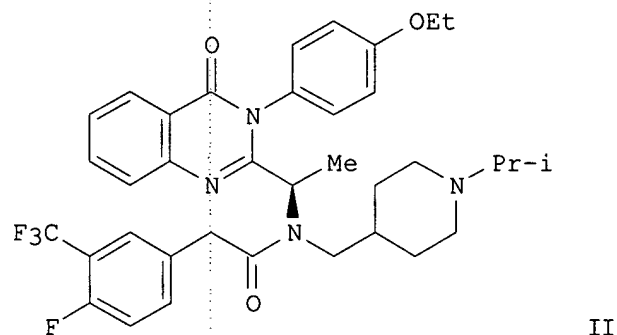
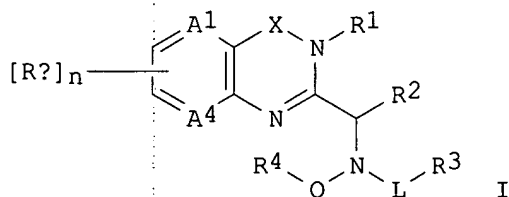
PATENT INFORMATION:

| PATENT NO.                                                                                                                                                                                                                                                                                                                                                                                                                      | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| WO 2006004915                                                                                                                                                                                                                                                                                                                                                                                                                   | A1   | 20060112 | WO 2005-US23251 | 20050628 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,<br>CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,<br>GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ,<br>LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA,<br>NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK,<br>SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,<br>ZA, ZM, ZW |      |          |                 |          |
| RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,                                                                                                                                                                                                                                                                                                                                                             |      |          |                 |          |

IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF,  
 CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM,  
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 KZ, MD, RU, TJ, TM

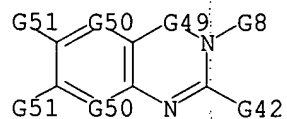
US 2006069099 A1 20060330  
 PRIORITY APPLN. INFO.:  
 GI

US 2005-168005 20050627  
 US 2004-583901P 20040628

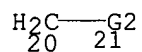


AB Title compds. I [A1, A4 = independently CH and derivs., N; Q = a bond, hetero/alkylene, CO, CH2CO, etc.; L = a bond, alkylene; X = CH2, SO2, CO; Ra = H, OH and derivs., halo, etc.; n = 0-4; R1 = hetero/aryl; R2 = H, halo, hetero/alkyl, etc.; or R2 may be combined with L to form a 5- to 8-membered ring containing 1-3 heteroatoms; R3 = absent, H, SR5, NHSO2R5, piperidin-4-yl, etc.; R3 may be combined with R2 to form a 4- to 8-membered ring containing 1-3 heteroatoms; R5 = hetero/alkyl, hetero/aryl; R4 = hetero/alkyl, hetero/aryl, etc.; and their pharmaceutically acceptable salts and prodrugs] were prepared as chemokine receptor CXCR3 modulators (no data). Two biol. assays are given. Thus, reductive amination of 1-isopropylpiperidine-4-carboxaldehyde with 2-((1R)-1-aminoethyl)-3-(4-ethoxyphenyl)-4(3H)-quinazolinone, and acylation of the amine intermediate with [4-fluoro-3-(trifluoromethyl)phenyl]acetic acid gave quinazolinone II. I are useful for the treatment of inflammatory and immune disorders and diseases, such as multiple sclerosis, rheumatoid arthritis, psoriasis, and inflammatory bowel disease (no data).

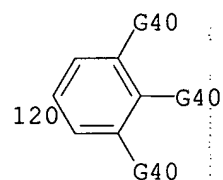
MSTR 1A



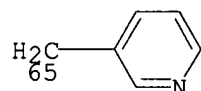
G1 = 20-13 21-9



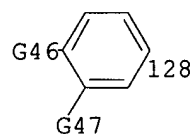
G2 = C(O)  
G3 = bond  
G8 = 120



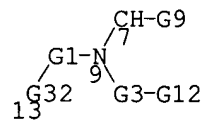
G12 = 65



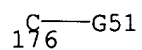
G32 = 128



G40 = OH  
G42 = 7



G46 = OCF3  
G49 = C(O)  
G50 = N / 176



Patent location:  
Note:

claim 1  
or pharmaceutically acceptable salts, or prodrugs

REFERENCE COUNT:

5

THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT